

Additional slides for New Lynn

Revisit your Inquiry statements

and glue them on to your charts.

All learning needs to have clear expected outcomes that the learner can identify and articulate . . .

therefore all teaching needs to have a set of clear key concepts that become transparent to the learner as they inquire

and therefore the learner needs to understand and be able to explain what they are learning, why they are learning it and how they went / will go about it.

**Can you do that
for last week's learning?**

What have been the key learnings from today?

How have I scaffolded your ability to learn?

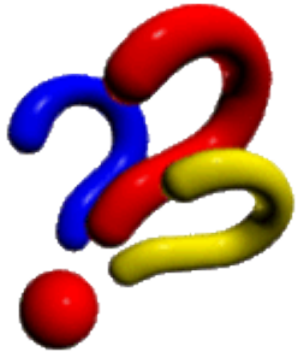
What tools have we used to come to development of understandings? What else could we have used?

Does this mean that we all need to work in exactly the same way in our classrooms?

What does it mean for planning for learning in your classrooms this term?

Key concepts for inquiry are . . .

- Inquiry is a disposition, a state of mind, a way of being and doing.
- Teachers need to produce lifelong learners – to be that, students (including the teacher) need to have a desire to learn and find out, but they also need to have the skills and methodologies/ strategies to do so.
- It is the teacher's duty to scaffold development of the key understandings through carefully planned explorations, discoveries, testable hypotheses, discussions, reflections, reshaping, overcoming of misconceptions etc.
- Every student has the ability to learn, but not every teacher has developed their ability to teach to that – we need to work to overcome that.
- Classroom climate/ culture is important to fostering learning. It needs a balance of support AND challenge.



Homework

The Inquiry Rubric

<http://galileo.org> Resources tab – Inquiry rubric



- Inquiry models are ways that have been developed to 'manage' inquiry. They may be helpful to the teacher, and the student, but they should not confine and limit what is achieved. They should grow beyond what they start out to be as we become more conversant with inquiry, and gain confidence to explore further, wider, deeper.
- Success is measured only in what new ground is explored or achieved - knowledge, new skills, new processes, new applications.
- Inquiry leads to change in the students, in the class and beyond.
- Inquiry is regularly reflective, self assessing, seeking feedback, includes new goal setting and monitoring, is inquisitive
- Assessed - sometimes summatively but always formatively
- Inquiry leads to further inquiry.
- It may start with a problem, a big question or a little question. It's where it goes that counts.

What happens when you turn on the tap?



- It requires deliberate acts of teaching in a classroom to further enable and empower students to take on more of the ownership and control. Students need help to enrich their questions, extend their boundaries, challenge their thinking, justify and validate their stand.
- It requires deep thinking - critical, analytical, compare and contrast.

Topic as a Question

- From context to concept e.g. poverty
- Have a go - write a question for a current unit of study e.g. What determines wealth and poverty? *or* How does poverty impact lives?
- What might be a good question for our inquiry into inquiry today?

A Fertile Question is...

open

Leads to an expansive answer

undermining

Digs into my beliefs / challenges me

connected

Is relevant and authentic

rich

Will lead to a wealth of new ideas

charged

Will be absorbing and consuming

practical

Is manageable and can be resourced

Ref: Yoram Harpaz & Adam Lefstein - Fertile Questions

<http://www.learningtolearn.sa.edu.au/Colleagues/pages/default/harpaz/?reFlag=1>

**What questions
will lead me
to a richer understanding
of inquiry?**

Make a list of the questions that will lead **you** to a richer understanding of inquiry.

**What is different about the 21st century
and therefore the learning required?**

**How can I plan ahead and ensure quality learning
if students are to have input into direction?**

**How can I ensure a balanced curriculum
and adherence to the nature of the learning areas?**

**How can I be sure
that the learning will be rich
if students begin to
have more control of their learning?**

To answer the over arching question we need to develop subsidiary questions that lead to the building of a concept
e.g.

- * Do I understand what effective pedagogy looks like in the classroom?
- * Where do I stand currently?
- * Where can I find out more information?
- * What am I teaching and why?
- * How do I teach?
- * How are my students achieving? Am I meeting their needs?
- * What are the needs for 21st century?
- * What are the opportunities and challenges of the 21st century?
- * What is powerful learning and what is it powerful to learn?
- * Is there common understanding amongst my learning community?

SOLO TAXONOMY (after Biggs and Collis 1982)

[Structure of
Observed
Learning
Outcomes](#)

Define
Identify
Do simple
procedure

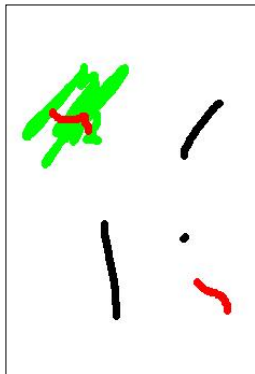
Define
Describe
List
Do algorithm
Combine

Compare/contrast
Explain causes
Sequence
Classify
Analyse
Part/whole
Relate
Analogy
Apply
Formulate questions

Evaluate
Theorise
Generalise
Predict
Create
Imagine
Hypothesise
Reflect



Prestructural Unistructural Multistructural Relational Extended abstract



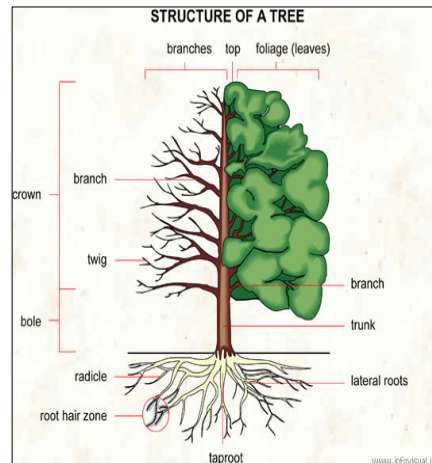
Prestructural

Tree



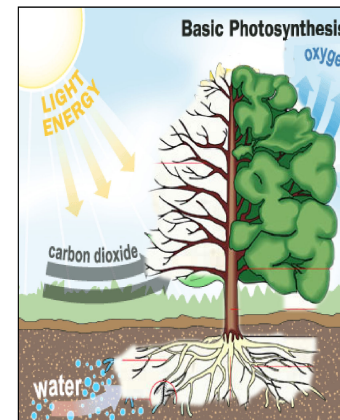
Unistructural

A tree has a trunk, leaves and fruit.



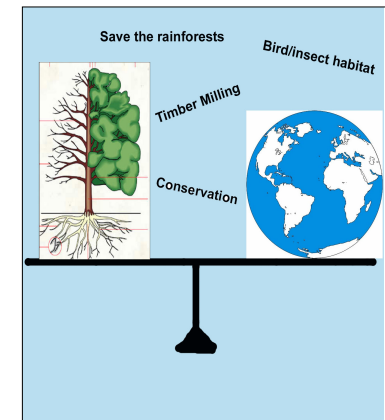
Multistructural

When a tree grows, the roots grow down into the soil, and a trunk begins growing above. From this trunk grow branches, twigs and leaves.



Relational

The roots of a tree anchor it firmly in the ground and absorb nutrients and water from the soil. Plant leaves absorb carbon dioxide, pull water up through their roots and use light to make sugar (photosynthesis). Plants use the sugar to grow. Plants give off oxygen as a by-product. The green parts of the plant make the sugar and oxygen. In winter some trees lose their leaves as the nutrients move down into the root systems as light and warmth diminish.



Extended Abstract

The tree has an important role to play in the survival of the planet. If, for example, we cut down rainforests or clear native bush to develop an exotic forestry industry, we risk irreversible damage to our planet. How will our planet renew its atmosphere if we remove most of the trees? What effect will it have on birds and insects, and how will that in turn affect us? What do we need to think about here?

list, define,
tell, describe, identify, show,
label, collect, examine, tabulate,
quote, name,

Who?
When?
Where?
What?

I

Unistructural



summarize, describe, interpret,
contrast,
predict, associate, distinguish,
estimate, discuss, extend,
differentiate, scan,

Why?



Multistructural



apply, demonstrate, calculate, complete,
illustrate, show, solve, examine, modify,
relate, change, classify, reason, combine,
explain, connect, contrast, experiment,
discover, order, compare, analyse,
separate, divide,
arrange,
part / whole,
select, infer,
sequence,

How?



Relational



combine, integrate, hypothesise,
rearrange, substitute, reflect,
speculate, create, select,
design, plan, invent, compose, discriminate, modify,
imagine,
formulate, prepare, generalize, rewrite, assess,
support,
recommend, decide, forecast,
rank, grade, test, measure, compare,
convince, judge, explain, conclude, summarize,
theorise, evaluate,
idealise,
apply a principle,

What if?
Would? How could?
Should? Can?
How might?
I wonder...



**Extended
Abstract**



Ask an Expert

[Ask A+ Locator](#)

Quality database of "Ask a" services.

[AskOxford.com](#)

The word experts at Oxford await your queries.

[AskJeeves](#)

Jeeves points you to relevant resources.

[AskMe.com](#)

Volunteer experts give free answers & advice.

[Ask Dr.Math](#)

Your K-12 math expert online.

[Ask Mayo](#)

Mayo Clinic doctor answers questions.

[All Experts](#)

More than 3,500 experts on hand.

[Experts Exchange](#)

Pose questions to 5,000 computer experts.

[WebHelp](#)

Help from humans in real time.

[Grammar Lady](#)

Find answers to grammar questions.

[Scientific American](#)

Science questions and answers.

[Ask a Librarian](#)

Choose a topic and fill out a form with your question.

[Experts.com](#)

Database of experts in various subjects.

[IPL Reference](#)

Ask IPL reference librarians.

[AskERIC](#)

Site responds to education questions.

[Mad Scientist Network](#)

Submit science questions or search archives.

[ALA Librarian](#)

Live instant messaging with a librarian.



www.lumosity.com

Reclaim your brain

Scientifically designed brain fitness games to improve memory, attention, and processing speed.

Ads by Google

More than 1 million questions answered! AllExperts.com is the oldest & largest free Q&A service on the Internet.

Animals/Pets

Dogs, cats, fish, birds

Arts/Humanities

Books, writing, fine arts

Autos

Cars, Motorcycles, Racing

Business

B2B resources, start-ups

Cities/Towns

U.S., Canada

Comedy

Jokes, cartoons, multimedia

Computing/Technology

Hardware, software

Cultures

Traditions, languages, int'l news

Education

Adult ed, teachers, college

Food/Drink

Recipes, wine, world cuisine

Gadgets

Cell phones, PDAs, cameras

Health/Fitness

Diseases, medicine

Hobbies

Crafts, collecting, pastimes

Home/Garden

Decorating, design, repair

Homework Help

History, languages, science

Industry

News, research, commerce

Internet/Online

Help, tips, tutorials

Jobs/Careers

Resumes, interviews, tips

Kids

Fun sites, safe chat

Money

Stocks, credit, banking

Movies

Reviews, stars, box office

Music/Performing Arts

MP#s, rock, top 40

Parenting/Family

Pregnancy, family fun

People/Relationships

Dating, seniors, gay/lesbian

Real Estate

Buy, sell, rent

Recreation/Outdoors

Gear, advice, training tips

Religion/Spirituality

Beliefs, scriptures

Science

Biology, space, geography

Shopping

Online/offline, bargains

Sports

Pro, college, spectator

Style

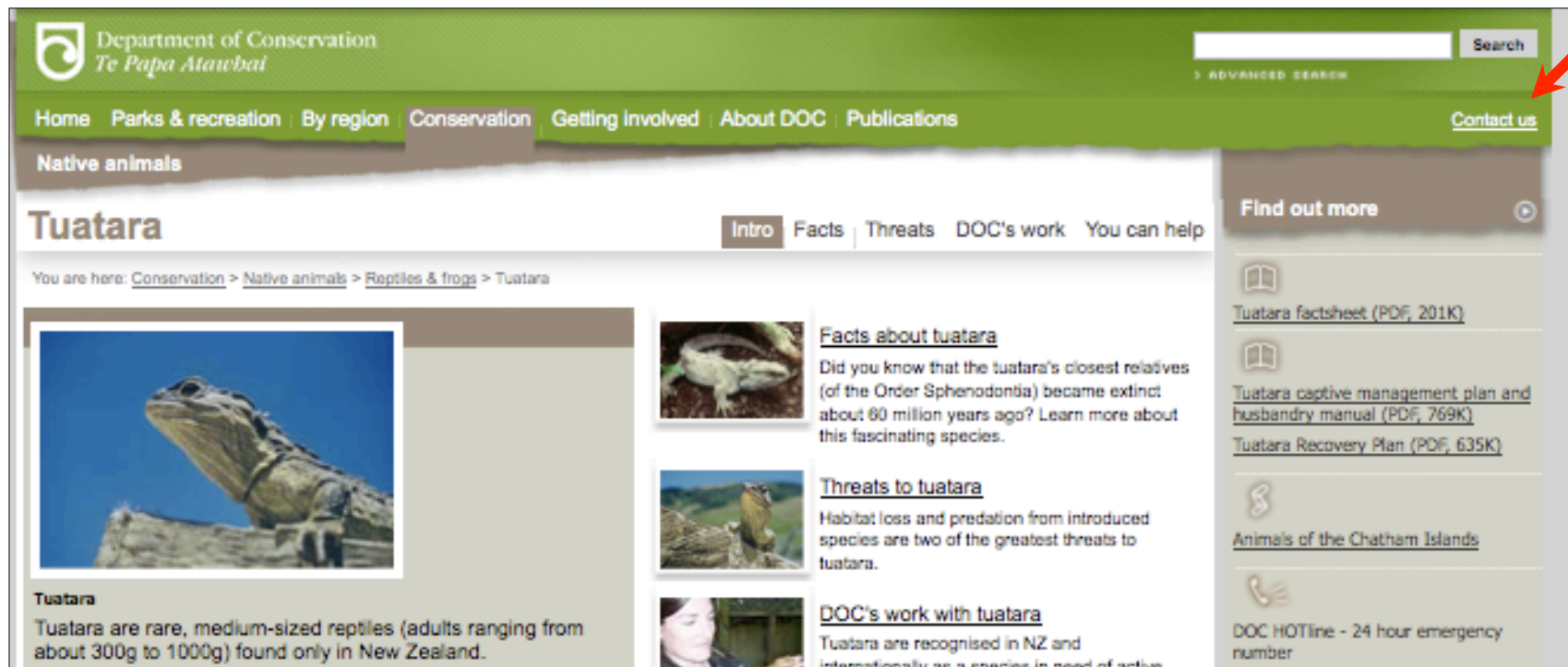
Fashion, entertaining

Teens

Cool sites, school help

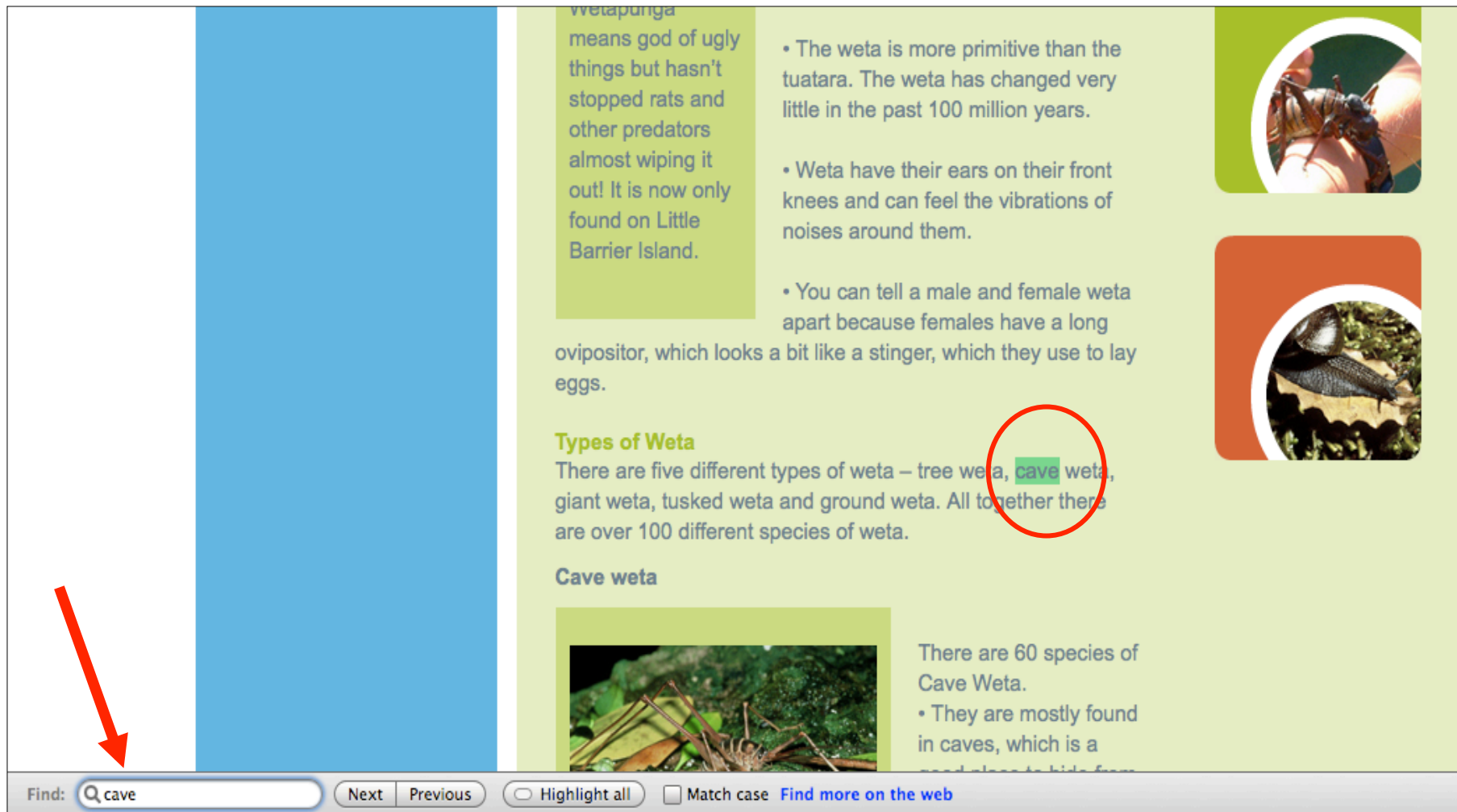
Travel

Destinations, vacations



- Find the email contact on related websites and email these people.

Information literacy



Wetapunga means god of ugly things but hasn't stopped rats and other predators almost wiping it out! It is now only found on Little Barrier Island.

- The weta is more primitive than the tuatara. The weta has changed very little in the past 100 million years.
- Weta have their ears on their front knees and can feel the vibrations of noises around them.
- You can tell a male and female weta apart because females have a long ovipositor, which looks a bit like a stinger, which they use to lay eggs.

Types of Weta
There are five different types of weta – tree weta, cave weta, giant weta, tussock weta and ground weta. All together there are over 100 different species of weta.

Cave weta

There are 60 species of Cave Weta.

- They are mostly found in caves, which is a good place to hide from

Find: ☐ Highlight all ☐ Match case [Find more on the web](#)

Ctrl Z or Edit -> "Find" to bring up the toolbar.

Developing the thinking

- De Bono Thinking Hats

<http://www.debonothinkingsystems.com/tools/6hats.htm>

- Ryan's Thinkers Keys

- Hyerle Thinking Maps

- Bloom's Taxonomy

Lifelong Learners

Lifelong learners – enabling them to be

Kids understanding how they learn

What, why, how of learning

Knowing what success will look like and how to get there.

Students should be able to articulate that!